WHAT IS CLAIMED IS:

1. A semiconductor device for controlling electricity comprising:

(a) a metal base plate; and

(b) at least one insulating substrate including

(1) an insulator plate,

(2) a back-side pattern on a back face of said insulator plate, said back-side pattern being bonded to said metal base plate and

(3) two circuit patterns being located on a front face of said insulator plate and above said back-side pattern, each of said circuit patterns including a switching element for controlling electricity made of semiconductor, a free-wheel diode paired with said switching element, and an electrode area;

wherein each of said circuit patterns is of a shape of a figure "L" and extending along two sides of said insulator plate that are continued to and lie perpendicular to each other, and said two circuit patterns are arranged at opposed corners of said insulator plate in a cetrosymmetrical relation to each other, and wherein said switching element is sandwiched between said free-wheel diode and said electrode area in each of said circuit patterns.

2. The semiconductor device according to claim 1, wherein an auxiliary electrode is bonded to said electrode area.

3. The semiconductor device according to claim 2, wherein said two switching elements and said two free-wheel diodes are arranged in a checker pattern and sandwiched by said two auxiliary electrodes placed along opposite sides of said insulator plate.

4. The semiconductor device according to claim 1, wherein said insulator plate is made of ceramics; said back-side pattern and said circuit patterns are made of copper or aluminum; said metal base plate is made of copper or aluminum; and said back-side pattern is bonded to said metal base plate by means of solder.

5. The semiconductor device according to claim 1, wherein said switching element is of a rectangle shape having sides of a length greater than 14 mm and is capable of being received in an area of 25 mm radius on a front face of said insulating substrate.

6. The semiconductor device according to claim 1, wherein a temperature sensor is placed on said switching device at or near a corner of said back-side pattern.